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Governor

OIL, GAS, AND MINING BOARD

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*Executive Director,*  
NATURAL RESOURCES

STATE OF UTAH

DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL, GAS, AND MINING

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*Director*

MEMORANDUM

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TO: The Board of Oil, Gas, and Mining

FROM: K. Michael Thompson, Engineering Geologist

SUBJECT: Vipont Mines, Ltd.  
Vipont Mine  
Box Elder County, Utah  
ACT/003/005

DATE: April 13, 1979

The Division seeks the Board's concurrence for the issuance of tentative approval for the Vipont Mine in Box Elder County, Utah. In addition, the Division seeks the Board's concurrence for the reclamation surety which is to be in two forms as per the Board's decision of July 20, 1977. The tailings removal operation will be covered by a reclamation contract to be presented at a later date. The underground operation requires the posting of a bond. A copy of the estimate is enclosed with the Executive Summary.

4/13/74

E X E C U T I V E   S U M M A R Y  
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VIPONT MINES, LIMITED

Vipont Mine  
Townships 14 & 15 North, Ranges 17 & 18 West  
Box Elder County, Utah  
ACT/003/005

#### LOCATION:

The Vipont Silver Mine is located in Birch Creek Canyon, at the confluence of Birch Creek and Pipe Spring Creek, approximately two miles south of the Utah - Idaho Border. The surface facilities are concentrated in Sections 1 and 12, Township 14 North, Range 18 West, Box Elder County, Utah. Consult the enclosed maps provided for reference.

#### MINING METHOD:

The proposed mine will utilize two methods of mining for the commodities of silver and gold. Past operations had mined ore from the area and processed the ore in onsite flotation mills. Tailings produced from the milling operation were subsequently flushed into Birch Creek where they were deposited. Since then, fluvial processes have reworked the tailings material which now forms the flood plain of Birch Creek. Few tailings are found within the creek channel itself. Vipont plans to remove the old tailings material and heap-leach it in a closed circuit cyanide process; utilizing a four-compartment 280 foot x 80 foot pad, transferred by plastic pipe to two 100,000 gallon tytar lined ponds, and processing and recycling facilities. The releached tailings will then be backfilled into a diked disposal area. Final tailings height is planned to be 45 to 50 feet high, with outslopes at approximately 30 degrees.

Vipont also plans to commence underground production in the near future. Two inclines have been driven to this date, one of which is presently used for storage as bad roof conditions caused cessation of further construction.

#### SOILS AND GEOLOGY:

Soils within the affected area, the drainage bottoms, are pre-dominately silt loam. Soils on steep canyon sides tend to be more shallow and sandy. Silver-gold ore appears to be mined from the Upper Precambrian Harrison Formation.

#### HYDROLOGY:

The mine surface facilities are located at the confluence of two perennial streams, namely Birch Creek and Pipe Spring Creek. Both streams originate from local springs and abandoned mine workings. The quality of Birch Creek appears to be good. The water is somewhat alkaline in spite of the presence of pyrite throughout the ore-bearing formation. The stream is classified as a Class-3 Stream, and mid-summer flows are estimated at 2 - 3 cubic feet/second by the Division of Wildlife Resources.

EXECUTIVE SUMMARY  
Vipont Mine  
Page Two

Significant groundwater is evident by the number of springs in the area that feed Birch Creek, a perennial stream. Groundwater also flows from abandoned underground workings.

ECOLOGY:

This is a brief statement of the existing ecology and condition of the creek which flows by the Vipont mine site. This information was supplied by the Division of Wildlife Resources.

The watershed of Birch Creek consists of a steep canyon moving into rolling hills. The creek drains an area of silt-loam soils and is vegetated with conifers, sage and grasses. The watershed is in fair condition.

The creek itself is approximately four miles in length and has a mid-summer flow of generally 2 - 3 cubic feet per second. It is a Class III stream which identifies it as a substantial fishery resource. This classification takes into account the fair to good condition of the stream bottom composition and the biological productivity of the stream. Game fish found in the stream include brook and brown trout.

Present management concerns by the Division of Wildlife Resources are 1) maintenance of the existing fishery of the creek by protecting the existing stream flows, the bottom composition and the stream-side vegetation and 2) periodic stocking with brook trout fingerlings.

STRUCTURES AND FACILITIES:

Existing structures utilized in Vipont's operation include the following:

- a. Sheet metal shop building.
- b. Heap-leach facilities.
- c. One active incline, one incline used for storage.
- d. Two mine waste-rock dumps.
- e. One tailings dam.



MINING AND RECLAMATION:

Vipont has agreed to the items as follows:

During Operations:

- a. Recently dumped waste-rock that encroaches upon Pipe Spring Creek will be cleared from the channel.
- b. Tailings will be removed from Birch Creek with the following stipulations.
  1. Machinery cannot work within or cross the active stream channel.
  2. An undisturbed buffer strip of at least 5 feet will be left on each side of the stream channel where vegetation exists. Stretches of the stream where high banks of tailings are contiguous are exempt from this requirement.
  3. Reclaim and revegetate, with an approved seed mixture, the stream-bank concurrently, in as much as possible, with tailings removal.
  4. Notify the Division and the State Engineer prior to any stream diversions.
  5. Repair the breach in the dike at the tailings disposal site.
  6. Place reworked tailings within an existing, presently breached dam that is partially vegetated.
  7. Toxic materials will be safeguarded; the mine and leaching area will be thoroughly posted and secured.
  8. Heap-leaching operations will be conducted in a closed system with no discharge.
- c. Mining will be conducted in a safe, orderly and workmanlike manner.

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After Operations:

- a. Ponds, buildings and roads will be utilized for on-going livestock operations.
- b. Regrade and reseed disturbed areas with a Division approved seed mixture.
- c. If necessary, upgrade the diversion of Pipe Spring Creek around the tailings disposal site.
- d. All underground entries will be sealed against unauthorized or accidental entry. '

IMPACTS:

The possible impacts of most concern bear upon Birch Creek and it's fishery resource, including leakage of toxic leaching chemicals, siltation from the tailings removal operation and possible acid drainage from the mine. Toxic chemicals used in the cyanide leaching process is a closed system operation with no discharge. Contamination of Birch Creek by these chemicals could possibly occur by mishandling or drainage from the released tailings caused by precipitation. Severe siltation of Birch Creek can occur if the tailings are improperly removed from the creek's floodplain. However, Vipont has committed to procedures that will minimize the potential problem; refer to the Mining and Reclamation Section. Large crystals of pyrite were observed in the waste-rock piles from the new portal. Pyrite combines with oxygen and water to form a yellow to orange precipitate of iron hydroxide known as "yellowboy" and acid drainage. Finely disseminated pyrite will react more than massive pyrite, as observed at Vipont, due to increased surface area. The Division will observe the mining progress and sample the stream periodically.

SURETY ESTIMATE:

The Board decided, in their July 20, 1977 meeting, that an agreement or contract describing the tailings removal and subsequent reclamation would be sufficient; i.e., a bond would not be required for that portion of the mining operation. However, a bond would have to be posted for the full underground mining operation on adjacent areas. A copy of the pertinent minutes of that meeting is enclosed for reference.

## EXECUTIVE SUMMARY

Vipont Mine

Page Five

Reclamation surety for the underground mining operation is estimated to be \$5,023.75, which includes a 5 percent inflation factor for a three year minimum mine life. At the end of this period the surety will be re-examined. The surety includes the following work:

- a. Sealing of two entries,
- b. Removal of trash and debris,
- c. Regrading of spoil piles,
- d. Scarification and seeding of disturbed areas,
- e. Supervisory labor,
- f. Removal of hazardous substances,
- g. Reseeding and monitoring,
- h. Inflation.

A copy of the reclamation surety estimate is enclosed for reference.

## APPLICATION HISTORY:

The first inspection occurred on June 26, 1977. At that time the access road was upgraded and the Mill Site was leveled. Mr. Miller was informed that he was in violation of the Utah Mined Land Reclamation Act, and he was instructed to submit a mining and reclamation plan and a letter of explanation for his non-compliance with the Act. Mr. Miller replied with a letter on June 30, 1977 and contended that the operation qualified for a declaration of exemption (DOE). On July 7, 1977 Brian Buck responded that the Division did not agree as redisturbance of the tailings constituted a mining operation.

Mr. Miller appeared before the Board on July 20, 1977 to request an exemption under the Act. He claimed that tailings do not constitute a "deposit" as defined in Section 40-8-4 (3) of the Act. Mr. Miller contended, and the Board agreed, that removing the tailings from the water course constituted reclamation. The Board decided that



EXECUTIVE SUMMARY

Vipont Mine

Page Six

Mr. Miller would be required to follow the regular procedure set forth under the Act; ie., file the necessary notice of intent and MR plan. However, the Board agreed that an agreement or contract describing the work performed and the work that will be performed to properly reclaim the (tailings) area would be sufficient. A bond would have to be posted for the full mining operation on adjacent areas. Mr. Miller was in accordance with the decision and indicated that he would comply.

The "Notice of Intention to Commence Mining" and the "Mining and Reclamation Plan" were received on September 29, 1977. A map of the surface facilities was not submitted, and was subsequently requested.

The mine was visited on October 26, 1977 by Ron Daniels and Mike Thompson. The heap leach facilities were operational, however, disturbance in the tailings area was minimal. No underground work had commenced. The operation was discussed with Mr. Miller and a map was again requested. Water samples were collected.

The July 5, 1978 inspection revealed that minimal additional disturbance had occurred in the tailings area. Mr. Melugin described the reworked tailings disposal area. It is immediately below the heap leach pads and contained by an existing, although presently breached, dike. An attempt to develop an underground entry in Pipe Spring Gulch near the Phelan tunnel was aborted due to poor roof conditions. The portal is presently left open and waste-rock is deposited in the ephemeral channel. Water was flowing down the gulch and through the waste pile. The waste pile is non-impounding however during a severe runoff event sediment loads in the stream would be increased. A second entry has been constructed about 50 yards down canyon. The drift is at an elevation of 6800 feet and is 451 feet long. Water was flowing from the entry, and a sample was taken for analysis.

A letter was sent to Mr. Miller of Vipont on October 19, 1978 again requesting a map and further information concerning the mining operation. He was informed that the recent underground development work was in violation of the Act and the Board's decision of July 20, 1977. Mr. Miller responded with a letter and surface map on November 6, 1978. However, the information was incomplete. In response, a letter was sent to Mr. Miller on November 8, 1978, requesting a meeting between the Division staff and Vipont. Mr. Miller responded with a letter on November 20, 1978 and met with the Division on December 13, 1978. The material necessary to complete the information was received December 21, 1978.



In accordance with Section 40-6-8, Utah Code Annotated, 1953, and the General Rules and Regulations and Rules of Practice and Procedure, a hearing was held on the following application; and a transcript of the testimony adduced and exhibits received has been preserved and made a part of the Division's permanent record.

CAUSE NO. 168-1:

In the matter of the application of En-Tech Corporation for an order permitting an experimental in-situ coal gasification project, Carbon County, Utah.

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Subsequent to the above matter, the Board's EXECUTIVE SESSION commenced at 1:00 p.m., Chairman I. Daniel Stewart presiding:

RECLAMATION CONTRACT FOR UNITED NUCLEAR CORPORATION:

As the \$107,703.00 amount of the contract for the Star Point #1 and #2 mines had been approved by the Board at their January 25, 1977 meeting, said contract was unanimously accepted and signed by Chairman Stewart.

REQUEST FOR EXEMPTION UNDER MINED LAND RECLAMATION ACT:

Mr. Tom Miller, United Silver Mines, appeared and requested that he be allowed an exemption under the Mined Land Reclamation Act and its requirements for the mining of tailings at the Vipont Mine, Box Elder County, Utah.

Mr. Miller indicated that under the definition of "Deposit" in Section 40-8-4(3) of the Act, his mining operation was not covered and as a result he would not be required to file the "Notice of Intent to Commence Mining", "Reclamation Plan" and surety. Mr. Feight agreed with Mr. Miller that this particular definition could be subject to different interpretation insofar as the term "natural accumulation" was concerned. Mr. Feight suggested that perhaps the Board would want to ask for an Attorney General's opinion as to clarification if the mining of tailings was covered under the Act.

Mr. Miller presented photographs of his operation to the Board in order that they might take note of the reclamation which would be performed through his removing the old tailings. The Board Members agreed that Mr. Miller would effectively be reclaiming the land through removing the tailings. Mr. Feight pointed out that Mr. Miller's biggest concern was the posting or obtaining of a surety bond ... he further suggested that perhaps Mr. Miller might submit a document such as a contract or personal agreement, in lieu of the bond; whereupon he would affirmatively state that the mined area would be properly reclaimed.



At this point, Mr. Ron Daniels, Coordinator of Mined Land Development for the Division, pointed out that upon commencement of mining operations adjacent to the tailings area, a provision be made that Mr. Miller follow normal procedures by filing the necessary forms and surety. Further, that the road currently in the area be made a part of his "mining plan"; and, that he be required to report the drilling of core or exploratory wells as provided for in the Act.

Chairman Stewart indicated that he felt the Board could make a decision in the matter, and that it would not be necessary to request an opinion from the Attorney General's office. Board Members Henderson, Bell and Juvelin agreed. Board Member Juvelin stated that there are many tailings/mine dumps areas throughout the state on which mining operations may eventually take place ... most notable of which would be those at the Kennecott Arthur-Magna Concentrator, and the Bingham Canyon Mine.

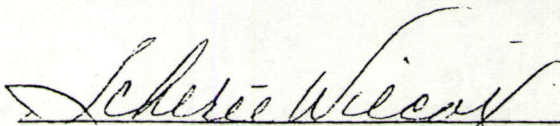
After some discussion, the Board unanimously agreed that Mr. Miller would follow the regular procedure set forth under the Mined Land Reclamation Act of 1975; that is he would file the necessary "Notice of Intent to Commence Mining" and "Reclamation Plan" for the Vipont Mine, however, the Board agreed that Mr. Miller be allowed to sign an agreement or contract describing the work already performed, and that which would be performed to properly reclaim the area in accordance with accepted reclamation standards.

Chairman Stewart pointed out to Mr. Miller that at such a time as he contemplates full mining operations on adjacent areas, it would be necessary that he follow the required procedure including the posting of a proper bond. In addition he will be asked to comply with Mr. Daniels' request relative to the road and drilling of core or exploratory holes.

Mr. Miller was in accordance with the decision and indicated he would comply with the Board's stipulations.

The meeting adjourned at 2:20 p.m.

Submitted By:

  
Scheree Wilcox, Secretary of the Board



# DIVISION OF OIL, GAS, AND MINING

## BOND ESTIMATE

OPERATOR: Vipont Mines, Ltd.  
 MINE NAME: Vipont Mine  
 LOCATION: Township 14 North, Range 18 West  
 COUNTY: Box Elder  
 DATE: March 21, 1979

	Operation	Amount	Rate	Cost
A.	CLEAN-UP			
	1. Removal of structures & equipment.	To remain for Livestock operation.		
	2. Removal of trash & debris.	Lump sum	\$500.00	\$ 500.00
	3. Leveling of ancillary facilities pads and access roads.	Minimal work to be included in Bl.		
B.	REGRADING & RECONTOURING			
	1. Earthwork including haulage and grading of spoils, waste and overburden.	16 hours	\$85.00/hr	\$1,360.00
	2. Recontouring of highwalls and excavations.	Included in Bl.		
	3. Spreading of soil or surficial materials.	Included in Bl.		
C.	STABILIZATION			
	1. Soil preparation, scarification, fertilization, etc.	3.75 acres	\$25.00/ac	\$ 93.75
	2. Seeding or planting.	3.75 acres	\$150.00/ac	\$ 562.50
	3. Construction of terraces, waterbars, etc.	Included in Bl.		
D.	LABOR			
	1. Supervision.	16 hours	\$10.00/hr	\$ 160.00
	2. Labor exclusive of bulldozer time.			
E.	SAFETY			
	1. Erection of fences, portal coverings, etc.	2 portals —	\$500.00/ea	\$1,000.00
	2. Removal or neutralization of explosive or hazardous materials.	Lump sum	\$100.00	\$ 100.00
F.	MONITORING			
	1. Continuing or periodic monitoring, sampling & testing deemed necessary.			
G.	OTHER			
	1. Reseeding, if necessary.	3.75 acres	\$150.00/ac	\$ 562.50
			(Subtotal)	\$4,338.75
	2. 5% inflation for 3 years.	CAF=1.1576	(Inflation)	\$ 684.00

TOTAL \$5,023.75